

animals, whose fluids are still more alkaline than our own, never suffer from this disease.

The peasant in the country, sweating enormously, and at the same time increasing the alkaline state of the humours by his vegetable regimen, can bear large quantities of acid drinks. So, too, the inhabitants of hot countries eat with impunity enormous quantities of acid fruits. The acids of fruits, however, always are less dangerous than the free acids, as they are in part united with alkalies, and their salts undergo changes in the blood, which transform them into carbonate of potass. Wherever inactivity or cold diminishes the cutaneous secretion, the ingestion of acids becomes especially dangerous; and thus gout or diabetes, which had disappeared, may be reproduced by a low temperature alone.

If certain waters are more favourable than others to health, a fact which did not escape the Romans, this is due to the presence of a marked proportion of bicarbonate of lime. Such waters immediately saturate superfluous acidity, facilitate the decomposition of glucose, and are especially adjuvatory to the formation of bone and the prevention of rickets.

A question has of late much occupied chemists, viz., why the organic acids should pass into the urine and the mineral acids not. That portion of the former of these which remains after saturating the alkalies, may pass at once off by the urine; but the mineral acids being endowed with the property of coagulating albumen, which the others are not, can never reach very far, since at every step they are absorbed by the tissues and the fluids which impregnate them. The resulting coagulum may, indeed, gradually yield its acid to the alkaline bases of the blood, and the acid so saturated may pass into the urine as a salt, but it can never reach the fluid in its free state. "So much do I rely upon this explanation, that I am certain that phosphoric acid, in spite of its mineral origin, would reach the urine in its free state; for, unlike the other mineral acids, it does not coagulate albumen, and in that respect is analogous to the organic acids."—*Med.-Chirurg. Rev.*, July, 1848, from *L'Union Médicale*, 1848, No. 22.

## MATERIA MEDICA AND PHARMACY.

10. *On Digitaline: its Physiological and Therapeutical Effects.*—The subject of digitaline has been treated, some years ago, with great talent by Messrs. Hnmoille and Quévenne, (see number of this Journal for July, 1845, p. 182,) and more recently by Messrs. Bouchardat and Sandras. Much, however, remained to be done in a clinical point of view, and this deficiency M. RAYER has endeavoured to supply in his investigations, reported in a paper by M. HERVIEUX.

As to the physiological effects of digitaline, it may be said that doses of one-fortieth, one-twenty-fourth, and one-sixteenth of a grain, are not disagreeable to take, and produce no disgust or repugnance afterwards. The lowering effects on the pulse have been noticed in all patients, without exception: it was retarded from twelve to forty-eight pulsations, or, in other words, the mean amount of diminution was between one-fourth and one-third; the maximum, one-half, and the minimum, one-eighth. Two or several hours must, however, elapse before these results can be noticed. The pulse, if the whole length of the treatment be kept in view, reaches the maximum of retardation only after a week or two. This maximum is then, strictly speaking, an absolute one, and the maximum which is observed daily, five or six hours after the ingestion of the drug, is a relative one. The peculiarities of the pulse, when thus lowered, are extremely variable: in most cases it is small; but it acquires, nevertheless, a certain amount of resistance and hardness, rarely recovering its normal fullness. A phenomenon worth noticing is the effect of digitaline on the irregularity of the pulse; for the ingestion of the drug may produce this irregularity, and either modify or destroy it, if it were pre-existing. But it may be gathered from experiments, that digitaline, at least in therapeutical doses, improves the qualities of the pulse, instead of injuring them: that it diminishes its frequency, and regulates its action, bringing it rather nearer to the normal standard than removing it from the same. The urinary functions are much influenced by digitaline. This is evinced both by the increase in the

quantity of the evacuations and their frequency. One-twenty-fourth or one-sixteenth of a grain, administered for some time, has, in the majority of cases, increased the amount of urine by one-half; in some cases, the proportion was less; and in other very rare ones, it increased fourfold. The physiological effects can, therefore, be thus summed up:—

1. Digitaline, in doses of the twenty-fourth to the sixteenth of grain, renders the circulation slower, and increases the secretion of urine.

2. Doses of one-twelfth to one-eighth of a grain may give rise to serious disturbances of the nervous centres and the digestive organs.

3. Beyond an eighth of a grain intolerance always sets in, and death might ensue if this limit were overstepped, or if the attempt were pursued too long.

11. *New Organic Base in Opium*.—Dr. G. MERCK, in the examination of a quantity of the residues of opium, has discovered a new base for which he proposes the name of *papaverine*. This substance crystallizes in groups of pointed crystals from its spirituous solution. It is sparingly soluble in cold alcohol and ether, but much more so in these menstrua at the boiling temperature. It is insoluble in water. It scarcely affects reddened litmus paper; with sulphuric acid it gives a blue colour. The salts of papaverine are for the most part sparingly soluble in water, and the hydrochlorate is especially remarkable for the facility with which it crystallizes. It is obtained in right-rhombic prisms, the angles of which are  $80^{\circ}$  and  $100^{\circ}$ . The sulphate and nitrate are also readily crystallizable. With bichloride of platinum it gives a double salt in the form of a yellow powder, insoluble in water and alcohol. The analyses of Dr. Merck establish the following as the formulæ of the base and its compounds:—Papaverine,  $C_{40}H_{21}NO_8$ ; Hydrochlorate,  $C_{40}H_{21}NO_8 + HCl$ ; Platinum Salt,  $C_{40}H_{21}NO_8.HCl.P + Cl_2$ .—*Month. Journ. and Retrospect*, Sept. 1848, from *Ann. der Chem. und Pharm.*, April 1848.

12. *On the Use of Adansonia Digitata as a Substitute for Sulphate of Quinine*.—M. DUCHASSAING, of Guadaloupe, having been led by the high price of sulphate of quinine to seek some other remedy against intermittent fevers, conceived the idea of employing the bark of *Adansonia digitata*. The result of a series of numerous experiments has tended to confirm the efficacy of this remedial agent, which is cheap, of an agreeable taste, exercises no action on the nervous system, but is favourable to the functions of digestion. M. Duchassaing has found these means succeed in cases where the strongest doses of sulphate of quinine had failed. One ounce of this bark, boiled in a litre of water till it was reduced one-third, generally sufficed to cure these kinds of fever.—*Gaz. Médicale*, May, 1848.

13. *Solution of Gutta Serena as a Dressing to Wounds*.—Gutta serena may be readily dissolved in bi-sulphuret of carbon in all proportions, and without the aid of heat. When a few drops of this solution are placed on the surface of any object, the carburet of sulphur evaporates with great rapidity, and leaves a thin layer of gutta serena, which acts as a preservative against the influence of air. On account of this, M. VOGEL has employed this solution to cover wounds caused by a cutting instrument. The carburet of sulphur in evaporating produces a sensation of cold in the skin, which acts as an antiphlogistic, and a re-union of the margins of the wound is readily effected. The sulphuret of carbon should be quite pure and free from all traces of sulphuretted hydrogen. This may be effected by treating it with litharge or carbonate of lead. He has also employed this solution for covering the surfaces of fruit which it is wished to preserve in a collection of natural history. Up to the present time a solution of wax has been employed for this purpose, but there is a great difficulty in removing the wax from the fruit without tearing the surface. The solution of gutta serena, which completely prevents the fruit from drying, has also the advantage of being easily removed by means of hot water. The solution offers also a great advantage for paintings and drawings, for it possesses the property of fixing in the paper, pencil, chalk, or charcoal drawings in such a manner that it is impossible to injure them by friction.—*Prov. Med. and Surg. Journ.*, from *Med. Times*.

14. *Liquid India-Rubber as Sticking Plaster*. By Mr. DOUGLAS FOX.—If liquid

India-rubber, spread upon calico, or other material, by a stiff brush, or by a knife, be used as adhesive plaster, it will be found to answer far better, in almost every case, than any other adhesive material, as it sticks firmly, is pliant, produces no irritation to the skin, and will bear lotions, or washing over it. It is also most valuable in cases where the skin requires a soft plaster of an unirritating nature for its defence, as in old persons, or others long confined to bed. In such cases, it is better to use either soft leather or the vulcanized India-rubber, made in thin sheets; the latter, from its elasticity, is often the best, as it stretches with the skin on every movement of the body. To many kinds of wounds, from operations or otherwise, strips of thin vulcanized India-rubber, spread with the liquid, will be found invaluable as elastic adhesive plasters, as they become firmly attached to the skin, and give way to all its movements. But should any wounded part require a portion of the plaster to be non-elastic, as in the case of operation for hare-lip, &c., then, in order to secure such part from being stretched, a short piece of calico, about an inch in length, should be stuck upon the middle of the elastic plaster, by which means that portion would become stationary.

If a circular piece of thin vulcanized India-rubber, about two inches in diameter, be spread with the liquid, and applied on the abdomen of an infant having umbilical hernia, and a common bandage, such as is generally used for infants, be passed lightly round the body, the protrusion will be instantly checked; and if the same plaster be again spread with the liquid and re-applied, when it comes off from time to time, no trouble will be experienced by the infant. It is not necessary to use any pad or compress.

The liquid, which is like thick treacle, and the vulcanized India-rubber, may be procured in most large towns. (They are manufactured in Manchester, by Charles Mackintosh and Co.) In most cases, the thin sheet of the vulcanized India-rubber, or that sold as No. 50, will be the most suitable; in other cases, the thicker, or the No. 36, will be advisable.

The most convenient method of carrying the liquid is in one of the small, compressible bottles, used by painters, holding about an ounce, so that on removing the screw-cap, any required quantity can be squeezed out.

The above statement will give a general idea of the subject; the materials may of course be used in a vast variety of forms.—*Lancet*, Feb. 19.

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## MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

15. *Observations on "Ochlesis," or the Disorder generated by the Accumulation of the Sick.* By GEO. GREGORY, M.D. (Proceedings of Roy. Med. and Chirurg. Soc., June 27).—The object of this communication is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "ochlesis," derived from *ὄχλος*, a crowd. The normal type of the disorder is erysipelas of the face; but there are a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; trails of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pore fever, of a low type, from the same source, are not uncommon. Diarrhoea sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals, the "ochletic" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic